

WE CLAIM:

- [C1]** A method for improving response of a plant to stress, the method comprising:
- (a) adding a DNA molecule, whose nucleotide sequence encodes a polypeptide that is at least 90% identical to an amino acid sequence as in SEQ ID NO: 1 to the plant; and
 - (b) expressing the DNA molecule in a plant.
- [C2]** The method of claim 1, wherein the DNA molecule comprises a nucleotide sequence as in SEQ ID NO: 2.
- [C3]** The method of claim 1, wherein the DNA molecule is stably integrated in the plant genome.
- [C4]** The method of claim 1, wherein the stress is selected from the group consisting of cold, osmotic stress, drought, and abscisic acid.
- [C5]** The method of claim 1, wherein the polypeptide is an *Arabidopsis thaliana* HOS10 transcription factor as in SEQ ID NO: 1.
- [C6]** The method of claim 1, wherein the plant is a monocot.
- [C7]** The method of claim 1, further comprising adding at least one other DNA molecule that encodes a transcription factor in a different pathway than HOS10.
- [C8]** A transgenic plant comprising a recombinant nucleic acid encoding a HOS10 protein (SEQ ID NO: 1), wherein an increased expression of the protein within the plant results in increased cold resistance to the plant.
- [C9]** The transgenic plant of claim 8, wherein the HOS10 protein has an amino acid sequence comprising SEQ ID NO: 1.
- [C10]** The transgenic plant of claim 8, wherein the plant is a monocot.
- [C11]** A plant seed comprising a recombinant nucleic acid molecule encoding a polypeptide comprising an amino acid sequence that is at least 90% identical to SEQ ID NO: 1.
- [C12]** An expression cassette comprising a promoter functional in a plant cell operably linked to an isolated nucleic acid sequence encoding an HOS10 polypeptide (SEQ ID NO:2), wherein an enhanced expression of the polypeptide in the plant cell results in increased cold resistance to the plant.
- [C13]** The expression cassette of claim 12, wherein the promoter is stress induced.
- [C14]** The expression cassette of claim 13, wherein the stress induced promoter is selected from the group consisting of an ABA-inducible promoter, a turgor-inducible promoter, and an ethylene responsive promoter.

- [C15]** The expression cassette of claim 12, wherein the promoter is selected from the group consisting of a viral coat protein promoter, a plant tissue-specific promoter, a monocot promoter, a ubiquitin promoter, a CaMV 35S promoter, a CaMV 19S promoter, a *nos* promoter, an Adh promoter, a sucrose synthase promoter, a tubulin promoter, a napin promoter, an actin promoter, a *cab* promoter, a PEP Case promoter, a 7S-alpha'-conglycinin promoter, an R gene complex promoter, a tomato E8 promoter, a patatin promoter, a mannopine synthase promoter, a soybean seed protein glycinin promoter, a soybean vegetative storage protein promoter, a bacteriophage SP6 promoter, a bacteriophage T3 promoter, a bacteriophage T7 promoter, a P_{tac} promoter, and a root-cell promoter.
- [C16]** A plant vector comprising a recombinant nucleic acid encoding a HOS10 polypeptide (SEQ ID NO: 1), wherein an expression of the polypeptide in a plant results in increased cold resistance to the plant.
- [C17]** A host plant cell comprising a recombinant nucleic acid encoding a HOS10 polypeptide (SEQ ID NO: 1), wherein an expression of the polypeptide in a plant results in increased cold resistance to the plant.
- [C18]** A plant vector comprising a recombinant nucleic acid encoding a HOS10 polypeptide (SEQ ID NO: 1), wherein an expression of the polypeptide in a plant results in increased salt resistance to the plant.
- [C19]** A host plant cell comprising a recombinant nucleic acid encoding a HOS10 polypeptide (SEQ ID NO: 1), wherein an expression of the polypeptide in a plant results in increased salt resistance to the plant.
- [C20]** A method for improving response of a plant to stress, the method comprising:
- (a) adding a first DNA molecule, whose nucleotide sequence encodes a polypeptide that is at least 90% identical to an amino acid sequence as in SEQ ID NO: 1 to the plant;
 - (b) adding at least a second DNA molecule; and
 - (c) expressing the first and the second DNA molecules in a plant.
- [C21]** The method of claim 20, wherein the expression of the first and second DNA molecules are controlled by different signaling pathways.
- [C22]** A method for improving response of a plant to stress, the method comprising:

- (a) adding a DNA molecule, whose nucleotide sequence encodes a polypeptide that is at least 90% identical to an amino acid sequence as in SEQ ID NO: 1 to the plant; and
- (b) expressing the DNA molecule in a plant under a tissue specific promoter.

[C23] The method of claim 22, wherein, the tissue specific promoter is selected from the group consisting of root, flower, fruit, leaves, stem, and petiole specific promoters.